

SAMPLE SCOPE OF SERVICES

TASK ORDER NO. T____

Contract No. 1443C200009____

SHEN

Rehabilitate Two Historic Overlooks

Shenandoah National Park

SCOPE:

In accordance with the terms and conditions of the Indefinite Delivery / Indefinite Quantity (IDIQ) contract, the contractor shall perform the work of this Request for Proposal (RFP) for the National Park Service (NPS) as described below.

The work of this task order shall be performed in accordance with the DSC Workflow Website <http://www.nps.gov/dsc/workflows/>.

In case of conflict between this task order and the DSC Workflow Website, this task order shall take precedence over and shall be used in lieu of such conflicting portions.

In case of conflict between this task order and the Base IDIQ contract, this task order shall take precedence over and shall be used in lieu of such conflicting portion.

CONFIDENTIALITY: The information developed under this task order is the property of the U.S. Government and shall be kept in strict confidence.

PERFORMANCE PERIOD: The work of this task order shall be provided from ____ through ____.

PROJECT IDENTIFICATION:

PMIS Number:

Project Title: Rehabilitate Two Historic Overlooks

Project Location: Shenandoah National Park, Virginia

POINTS OF CONTACT:

Contractual:

Contracting Officer (CO):

Contract Specialist (CS):

Technical:

Project Manager (PM):

Contracting Officer's Technical Representative:
Park POC:

STANDARD SERVICES:

Comply with standard services per the IDIQ contract, Section C, except as modified elsewhere in this task order.

I. PROJECT DESCRIPTION:

The intent of this project is to rehabilitate two of the 69 historic overlooks located along Skyline Drive in Shenandoah National Park. Improvements of the overlooks are needed as a result of their deteriorating condition. This includes deterioration of historic stone guardwalls, retaining walls and parking areas at overlooks that has created public safety concerns and diminished overall visitor enjoyment. The project would restore and rehabilitate two historic overlooks, Browntown and Tunnel Parking. Significant character-defining features such as stone curbing, stone-paved drainage structures, stone headwalls, walkways, stone retaining walls and guard walls would be restored and repaired. Historically appropriate dry-laid stone retaining walls would be rebuilt on concrete foundations for a longer lasting solution to the steep slopes. The overlooks require repavement as well.

LOCATION

This project is located in Shenandoah National Park, Page and Warren Counties, Virginia. The specific overlooks are Browntown, at milepost 10.5, and Tunnel Parking at mile post 32, along Skyline Drive.

II. SCOPE OF SERVICE REQUIREMENTS

The project will consist of construction services for the rehabilitation of two historic overlooks, Browntown and Tunnel Parking. Historically appropriate dry-laid stone retaining walls shall be rebuilt on concrete foundations. The contractor shall restore and repair significant character-defining features such as stone curbing, stone-paved drainage structures, stone headwalls, walkways, stone retaining walls and guard walls. Overlooks shall be repaved.

All work shall be performed in accordance with the below specifications, which are attached.

Section 04860 Stone Masonry

Section 04050 Cold and Hot Weather Masonry Construction

Section 04201 Cement and Lime Mortars

III. FEE AND PAYMENT

Comply with fee and payment requirements per the IDIQ Contract, Section G, and as stated herein.

The Contractor shall be paid for travel and lodging in accordance with IDIQ contract, Section G. Travel costs and all other direct costs shall be included in the firm fixed price for the work.

After completion of the work and as a prerequisite to the final payment on this task order, the Contractor shall furnish to the Contracting Officer a **Release of Claims arising out of this Task Order**. Such claims as are asserted by the Contractor and excepted from operation of the Release shall be listed in spaces provided after the word "except" and shall be referenced to correspondence or other identifying data, together with monetary amount for each major claim item.

The Government obligation for performance of this task order beyond this phase is contingent upon the Government's needs and availability of funds from which payment for contract purposes can be made. No legal liability on the part of the Government for any payment may arise for performance under this contract beyond the amount that has been authorized through the issuance of written task orders.

The sum as in this task order is obligated as the firm-fixed price for the furnishing of all supplies and services required to accomplish all services required under this task order.



Stone Curb



Rehabilitate Dry-Laid Walls







Reconstruct Stone Retaining Wall

SECTION 04050

COLD AND HOT WEATHER MASONRY CONSTRUCTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Cold weather protection.
 - 2. Hot weather protection.
- B. Related Sections include but are not necessarily limited to:
 - 1. Division 0 - Bidding Requirements, Contract Forms, and Conditions of the Contract.
 - 2. Division 1 - General Requirements.
 - 3. Section 04201 – Cement and Lime Mortars

1.2 QUALITY ASSURANCE

- A. Referenced Standards:
 - 1. American Concrete Institute (ACI)/American Society of Civil Engineers (ASCE):
 - a. ACI 530.1/ASCE 6/TMS 602, Specifications for Masonry Structures.
 - 2. National Concrete Masonry Association (NCMA):
 - a. TEK 3-1C, All Weather Concrete Masonry Construction.
 - 3. Brick Industry Association (BIA):
 - a. Technical Notes 1 - All-Weather Construction.

1.3 DEFINITIONS

- A. Hot Weather Construction: Per ACI 530.1/ASCE 6/TMS 602 hot weather construction is defined as occurring when ambient temperatures exceed 100 DegF or 90 DegF when the wind velocity is greater than 8 mph.
- B. Cold Weather Construction: Per ACI 530.1/ASCE 6/TMS 602 Cold Weather Construction is defined as occurring when ambient temperature falls below 40 DegF or when the temperature of the masonry units is below 40 DegF.

PART 2 - PRODUCTS - (NOT APPLICABLE TO THIS SECTION)

PART 3 - EXECUTION

3.1 ERECTION AND APPLICATION

- A. General:
 - 1. Comply with NCMA {and BIA} recommendations and practices.
 - 2. Do not use frozen or ice coated materials.
 - 3. At end of each day or at shutdown, cover tops of all walls not enclosed or sheltered with clear polyethylene minimum 6 mil thick. Extend down each side of wall minimum of 16 IN and secure.
- B. Temporary Facilities:

1. Construct and maintain temporary protection required to permit continuous and orderly progress of work.
 2. Provide and maintain heat sufficient to assure temperature above 32 DegF within protected areas.
 3. Remove all temporary facilities after completion of work.
- C. Cold Weather Construction and Protection Requirements Prior to and During Installation:
1. Air temperature: 32 to 40 DegF.
 - a. Heat mixing water or aggregate to produce mortar temperatures between 40 and 120 DegF.
 2. Air temperature: 25 to 32 DegF.
 - a. Heat mixing water or aggregate to produce mortar temperatures between 40 and 120 DegF.
 - b. Maintain mortar temperatures above freezing until used.
 3. Air temperature: Below 25 DegF.
 - a. Heat mixing water and aggregate to produce mortar temperatures between 40 and 120 DegF.
 - b. Maintain mortar temperatures above freezing until used.
 - c. Maintain temperature of units until laid at not less than 20 DegF.
 - d. Provide heat on both sides of walls under construction to maintain air temperature above freezing.
 - e. Provide windbreaks or shelters when wind is in excess of 15 mph.
 - 1) Wind breaks or shelters shall be translucent.
- D. Cold Weather Construction and Protection Requirements after Installation:
1. Air temperature: 32 to 40 DegF.
 - a. Protect from rain or snow for not less than 24 HRS by covering with weather-resistive translucent membrane.
 2. Air temperature: 25 to 32 DegF.
 - a. Completely cover with translucent weather-resistive membrane for not less than 24 HRS.
 3. Air temperature: 20 to 25 DegF.
 - a. Completely protect with insulating blankets for not less than 24 HRS or provide other protection approved by Engineer.
 4. Air temperature: Below 20 DegF.
 - a. Provide enclosed translucent shelters and heating to maintain air temperature on each side of wall above 32 DegF for 24 HRS.
 - b. Do not allow rapid drop in temperature after removal of heat.
- E. Hot Weather Construction and Protection Requirements:
1. Comply with requirements of IMIAWC and ACI/ASCE/TMS.
 2. Storage and preparation of materials.
 - a. Cover or shade masonry units and mortar materials from direct sun.
 - b. Maintain sand in a damp loose condition.
 - 1) Sand moisture shall be maintained at minimum 8 percent.
 - 2) Sprinkle with cool water as required to maintain moisture content.
 - c. Use cool water for mixing mortars.
 - d. Avoid using tools and equipment that have been sitting in the sun.
 - 1) Sprinkle mortar boards, mortar pans, wheel barrows, mixers, etc. with cool water.
 - e. Wet brick units having high initial rates of absorption.
 - f. Do not wet concrete masonry units prior to use.

3. Installation:
- a. Masonry units shall be placed within one minute of the spreading of the mortar.
 - 1) Mortar beds shall not be spread more than 4 FT ahead of the masonry unit being placed.
 - b. Provide wind screens and shading partitions as required to eliminate direct sunlight exposure.
 - c. Wet installed units using fog spray of clean water.
 - d. Cover installed work immediately after installation to slow rate of loss of moisture from units.
 - e. Fog-spray new masonry work until damp. Repeat fog spraying minimum of three times per day until masonry work has cured for 72 HRS.
 - 1) In high humidity conditions, Engineer reserves the right to discontinue fog spraying if operation is found to be introducing excessive amounts of moisture into the Work.

END OF SECTION

SECTION 04201

CEMENT AND LIME MORTARS

PART 1 - GENERAL

1.1 SUMMARY OF WORK

- A. Section Includes:
 - 1. Cement and lime mortars and masonry grout.
- B. Related Sections include but are not necessarily limited to:
 - 1. Division 0 - Bidding Requirements, Contract Forms, and Conditions of the Contract.
 - 2. Division 1 - General Requirements.
 - 3. Section 04050 – Cold and Hot Weather Masonry Construction.

1.2 QUALITY ASSURANCE

- A. Referenced Standards:
 - 1. American Concrete Institute/American Society of Civil Engineers/The Masonry Society (ACI/ASCE/TMS).
 - a. ACI 530.1/ASCE 6/TMS 602, Specifications for Masonry Structures.
 - 2. ASTM International (ASTM):
 - a. C109, Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2 IN or Cube Specimens).
 - b. C143, Standard Test Method for Slump of Hydraulic Cement Concrete.
 - c. C144, Standard Specification for Aggregate for Masonry Mortar.
 - d. C150, Standard Specification for Portland Cement.
 - e. C207, Standard Specification for Hydrated Lime for Masonry Purposes.
 - f. C270, Standard Specification for Mortar for Unit Masonry.
 - g. C404, Standard Specification for Aggregates for Masonry Grout.
 - h. C476, Standard Specification for Grout for Masonry.
 - i. C780, Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.
 - j. C1019, Standard Test Method for Sampling and Testing Grout.
- B. Qualifications:
 - 1. Testing Laboratory shall have a minimum of 10 years experience in the testing of mortar and grout.
 - 2. Technician conducting tests shall have minimum of 5 years experience in the testing of mortar and grout.
- C. Testing:
 - 1. Test existing mortar, including each mortar with a different appearance, at each overlook site.
 - 2. At a minimum, testing shall determine composition and compressive strength.
- D. Mock-Ups:
 - 1. Provide mortar sample two weeks prior to sample wall construction.
 - 2. Mortar to match visible historic mortar in color, texture and tooling.

1.3 DEFINITIONS

- A. Coarse grout and fine grout are defined by the aggregate size used in accordance with ASTM C476.
- B. Coarse aggregate and fine aggregate are defined in ASTM C404, Table 1.

1.4 SUBMITTALS

- A. Shop Drawings:
 - 1. See Section 01600.
 - 2. Product technical data including:
 - a. Acknowledgement that products submitted meet requirements of standards referenced.
 - b. Proposed mortar mix design.
 - c. Proposed masonry grout mix design.
 - 3. Test results:
 - a. Strength and composition test results for all existing mortar and masonry grout.
 - b. Strength test results for all mortar and masonry grout (both coarse and fine grout) placed during construction.
 - c. Preconstruction mortar test results.
 - d. Preconstruction masonry grout test results.
 - e. Slump test results of all masonry grout placed during construction.
- B. Mortar Mix:
 - 1. Based on test results, recommended mortar mix for each location.
 - 2. Repointing work shall not begin until Contracting Officer has approved the proposed mortars.
- C. Samples:
 - 1. Actual colored mortar samples for color selection by Contracting Officer. Color card and plastic simulations are not acceptable.
- D. Miscellaneous Submittals:
 - 1. See Section 01600.
 - 2. Qualifications of testing lab and technician.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Portland Cement:
 - 1. ASTM C150, Type I, white. Use gray only if required to match mortar color.
 - 2. No air entrainment.
 - 3. Maximum percent of alkalis: 0.60 in accordance with ASTM C150, Table 1A.
- B. Hydrated Lime: ASTM C207, Type S.
 - 1. Type SA not acceptable.
 - 2. Lime substitutes are not acceptable.
- C. Mortar Aggregate: ASTM C144, free of impurities, rounded or natural sand, washed. Match sand of historic mortar as closely as possible based on test results.
- D. Masonry Grout: ASTM C476.
- E. Grout Aggregate: ASTM C404.
- F. Water: Potable.

G. Mortar Pigments:

1. Mineral oxide commercial colorants compounded for use in mortar mixes only if needed to match historic mortar color. Do not exceed manufacturer's recommended pigment-to-cement ratios.

2.2 MIXES

A. Type "S" mortar shall be used:

1. For partial reconstruction or repointing, mortar shall have compressive strength equal or lower than existing mortar based on test results.
2. For pricing purposes, mortar mix is 1 part portland cement, 3 parts lime, 8-12 parts sand unless otherwise indicated by test results. Use containers of known volume for measurement. Shovel measurement is not permitted.
3. Comply with ASTM C270, Table No. 1, unless otherwise required by test results.
4. Do not use masonry cement.
5. Mix materials minimum of 3 minutes and maximum of 5 minutes.
6. Adjust consistency to satisfaction of mason.
7. Use no anti-freeze additives.

B. Masonry Grout:

1. Comply with ASTM C476.
2. Use no anti-freeze additives.
3. No fly ash additives will be accepted.
4. Mix 5 minutes minimum.
5. Slump: 8 to 11 IN.
6. At Contractor's option, manufactured grout meeting the above minimum requirements may be used.
7. Minimum 28-day compressive strength: 2,000 psi.

2.3 SOURCE QUALITY CONTROL

A. Perform preconstruction laboratory tests on existing and proposed mortar and masonry grout mix prior to start of masonry work.

1. Perform tests far enough in advance so that any necessary retesting can be accomplished before masonry construction begins.
 - a. Test mortar per ASTM C109.
 - b. Test grout per ASTM C1019.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install products in accordance with manufacturer's instructions and ACI 530.1/ASCE 6/TMS 602.

B. Use coarse grout in spaces with least dimension over 2 inches.

C. Consolidate all grout while installing.

1. Consolidate grout pours 12 inches or less in height by mechanical vibration or by puddling.
2. Consolidate grout pours exceeding 12 inches in height by mechanical vibration and reconsolidate by mechanical vibration after initial water loss and settlement has occurred.

3.2 FIELD QUALITY CONTROL

- A. Mortar:
 - 1. Perform one ASTM C780 annex A-1, A-5, A-6 and A-7 test per week on field mortar used during masonry construction.
 - 2. If standard gray mortar begins to stiffen, it may be retempered by adding water and remixing.
 - a. Standard gray mortar shall not be retempered more than one time.
 - 3. Colored mortar shall not be retempered.
 - 4. All mortar {and pointing grout} must be used within 1-1/2 hours after initial mixing.
- B. Engineer reserves right to alter mix design based on initial rate of absorption of masonry units.
- C. Masonry Grout:
 - 1. Use grout within 1-1/2 hours after initial mixing.
 - 2. Use no grout after it has begun to set.
 - 3. Do not retemper grout after initial mixing.
- D. Masonry Grout Testing:
 - 1. Conduct compressive strength tests and slump tests on all masonry grout used during masonry construction.
 - 2. Perform all compressive strength test sampling, testing and reporting per ASTM C1019.
 - 3. Perform all slump test sampling, testing, and reporting per ASTM C143.
 - 4. Frequency of sampling: One sample (three specimens) collected each grouting operation during masonry construction.
 - 5. Compressive strength testing:
 - a. One strength test shall be the average of three specimens from the same sample, tested at 28 days.

END OF SECTION

SECTION 04860

STONE MASONRY

PART 1 - GENERAL

1.1 SUMMARY

- A. Related Sections:
 - 1. SECTION 04050 – Cold and Hot Weather Masonry Construction
 - 2. SECTION 04201 - Cement and Lime Mortars

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
 - 1. For stone varieties proposed for use on Project, include test data indicating compliance with physical properties specified.
- B. Samples:
 - 1. For each stone type indicated.
 - 2. For each color of mortar required.

1.3 PROJECT CONDITIONS

- A. Protection of Stone Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work.
- B. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
 - 1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and above and will remain so until masonry has dried.
- C. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

1.4 MORTAR MATERIALS

- A. Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather construction.
 - 1. Low-Alkali Cement: Not more than 0.60 percent total alkali when tested according to ASTM C 150, Table 1A.
- B. Hydrated Lime: ASTM C 270 for type N mortars.
- C. Aggregate: ASTM C 144 and as follows:
 - 1. For pointing mortar, use aggregate graded with 100 percent passing No. 16 sieve.
 - 2. White Aggregates: Natural white sand or ground white stone.
 - 3. Colored Aggregates: Natural-colored sand or ground marble, granite, or other sound stone; of color necessary to produce required mortar color.

- D. Latex Additive: Manufacturer's standard water emulsion, serving as replacement for part or all of gaging water, of type specifically recommended by latex-additive manufacturer for use with field-mixed portland cement mortar bed, and not containing a retarder.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Boiardi Products Corporation.
 - b. Bonsal.
 - c. Bostik Findley Inc.
 - d. C-Cure.
 - e. Custom Building Products.
 - f. DAP Inc.
 - g. Laticrete International, Inc.
 - h. MAPEI Corp.
 - i. Summitville Tiles, Inc.
 - j. TEC Specialty Construction Brands; H. B. Fuller Company.
- E. Water: Potable.

1.5 MISCELLANEOUS MASONRY ACCESSORIES

- A. Weep Hole/Vent Products: Use one of the following unless otherwise indicated:
1. Wicking Material: Absorbent rope, made from UV-resistant synthetic fiber, 1/4 to 3/8 inch in diameter, in length required to produce 2-inch exposure on exterior and 18 inches in cavity behind stone masonry. Use only for weep holes.
- B. Cavity Drainage Material: Free-draining mesh, made from polymer strands that will not degrade within the wall cavity.
1. Provide one of the following configurations:
 - a. Strips, full-depth of cavity and 10 inches wide, with dovetail shaped notches 7 inches deep.
 - b. Strips, not less than 1-1/2 inches thick and 10 inches wide, with dimpled surface designed to catch mortar droppings.
 - c. Sheets or strips full depth of cavity and installed to full height of cavity.
 - d. Sheets or strips not less than 1 inch thick and installed to full height of cavity with additional strips 4 inches high at weep holes and thick enough to fill entire depth of cavity.
 2. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Advanced Building Products Inc.; Mortar Break.
 - b. CavClear/Archovations, Inc.; CavClear Masonry Mat.
 - c. Dur-O-Wal, a Dayton Superior Company; Polytite MortarStop.
 - d. Mortar Net USA, Ltd.; Mortar Net.

1.6 MASONRY CLEANERS

- A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar and grout stains, efflorescence, and other new construction stains from stone masonry

surfaces without discoloring or damaging masonry surfaces; expressly approved for intended use by cleaner manufacturer and stone producer.

1. Manufacturers: Subject to compliance with requirements available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:
 - a. Diedrich Technologies, Inc.
 - b. Dominion Restoration Products.
 - c. EaCo Chem, Inc.
 - d. Hydrochemical Techniques, Inc.
 - e. Prosoco, Inc.

1.7 MORTAR MIXES

- A. General: Do not use admixtures unless otherwise indicated.
 1. Do not use calcium chloride.
 2. Limit cementitious materials in mortar to portland cement and lime.
 3. Mixing Pointing Mortar: Thoroughly mix cementitious and aggregate materials together before adding water. Then mix again, adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for one to two hours. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within 30 minutes of final mixing; do not retemper or use partially hardened material.
- B. Mortar for Stone Masonry: Comply with ASTM C 270, Proportion Specification.
 1. Mortar for Setting Stone: Type N
 2. Mortar for Pointing Stone: Type N
- C. Latex-Modified Portland Cement Setting Mortar: Proportion and mix portland cement, aggregate, and latex additive to comply with latex-additive manufacturer's written instructions.
- D. Cement-Paste Bond Coat: Mix either neat cement and water or cement, sand, and water to a consistency similar to that of thick cream.
 1. For latex-modified portland cement setting-bed mortar, substitute latex admixture for part or all of water, according to latex-additive manufacturer's written instructions.

1.8 FABRICATION

- A. Select stone to produce pieces of thickness, size, and shape indicated, including details on Drawings.

PART 2 - EXECUTION

2.1 SETTING OF STONE MASONRY, GENERAL

- A. Perform necessary field cutting and trimming as stone is set.
 1. Use hammer and chisel to split stone that is fabricated with split surfaces.

- B. Sort stone before it is placed in wall to remove stone that does not comply with requirements relating to aesthetic effects, physical properties, or fabrication or that is otherwise unsuitable for intended use.

2.2 GUIDEWALL SPOT REPAIR

- A. Remove and inspect loose stone.
 - 1. Verify that stone is in good condition, free of cracks and potential breaks.
 - 2. If new stone is needed to replace damaged or non-existent stone, stone should be same in character and size as other stone in surrounding wall.
- B. Clean base at grade for reposition stone
 - 1. Remove all foreign material (soil, small rocks, etc.) that would negatively impact the restacking of new stone. Clean existing stone base material.
 - 2. Prepare base to be level and consistent to receive new stone.
- C. Placing specified stone
 - 1. Each overlook area has a specific stone installation pattern for the stone guidewall. The guidewall will be constructed to blend in with existing wall. Mortar is to be applied 4-6" from outer edge of stone. Mortar is not to be visible between stones. A dried stacked look is to be maintained throughout all guidewalls, except where otherwise indicated on the drawings.

END OF SECTION